

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
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CASE NARRATIVE

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

April 3, 2000

Attention: Joan Kessner

Project Number	:	33548
SAF	:	B99-018
SDG	:	W03019
Number of Samples	:	one (1)
Sample Matrix	:	Water
Data Deliverable	:	Summary
Date SDG Closed	:	February 9, 2000



RECEIVED
APR 25 2000

EDMC

II. Introduction

On February 9, 2000, one (1) "water" sample was received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The samples were received within temperature criteria. See the attached Sample Summary sheet for the client and lab ids for these samples.

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested:

- pH - 150.1
- Sulfate - 375.4
- TDS - 160.1
- TSS - 160.2
- Arsenic - 7060 (GFAA)
- ICP Metals - 6010 TAL
- Chlorine (Total Residual) - 330.3
- Acrylamide - 8316
- VOA - 8240 (Appen IX)
- VOA - 8260A (TCL)

Deviation from Request: There were no deviations.

Bechtel Hanford Incorporated

April 3, 2000

Project Number: 33548

SDG: W03019

Page 2

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank

QCLCS- Quality Control Laboratory Control Sample, Blank Spike

MS- Matrix Spike.

DUP- Matrix Duplicate

MSD- Matrix Spike Duplicate.

V. Comments

General:

The term "Detection Limit" used in the analytical data reports refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

Please refer to the attached cross-reference table for the standard preparation methods used at Quanterra, St. Louis.

VOA:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

Due to instrumentation problems, the 8240 analysis was done in two separate runs. The first (batch # 0050135) contained all compounds except Acrolein. The instrument would not meet calibration criteria for this compound. The second analysis (batch 0050132) was done on a different instrument and was used for Acrolein reporting only.

There were no comments or non-conformances associated with the 8260 Volatiles data.

Acrylamide:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

There were no comments or non-conformances associated with this data.

Bechtel Hanford Incorporated

April 3, 2000

Project Number: 33548

SDG: W03019

Page 3

Metals:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

There were no comments or non-conformances associated with this data.

Wet Chemistry:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Duplicate were analyzed with the Sulfate preparation batch per the protocol for this analysis. A duplicate was analyzed as QC for the pH, TSS, TDS and Residual Chlorine analyses.

There were no comments or non-conformances associated with the Wet Chemistry data.

I certify that this Data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:



Marti Ward

St. Louis Project Manager

SAMPLE SUMMARY

F0B110114

WO #	SAMPLE#	CLIENT	SAMPLE ID	DATE	TIME
D8FGL	001	B0XJP8		02/09/00	08:38

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

METHODS SUMMARY

FOB110114

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
pH (Electrometric)	MCAWW 150.1	MCAWW 150.1
Acrylamide, Acrylonitrile and Acrolein by HPLC	SWDFT 8316	
Arsenic (AA, Furnace Technique)	SW846 7060	SW846 7060
Filterable Residue (TDS)	MCAWW 160.1	MCAWW 160.1
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3010A
Non-Filterable Residue (TSS)	MCAWW 160.2	MCAWW 160.2
Residual Chlorine 330.3	MCAWW 330.3	
Sulfate	MCAWW 375.4	MCAWW 375.4
Volatile Organics by GC/MS	SW846 8240A	SW846 8240A
Volatile Organics by GC/MS	SW846 8260A	SW846 5030/8260

References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SWDFT "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Draft Methods.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

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PSL20300
Page 1

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 2/11/00
Time: 7:27:30
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: PERMIT MONITOR
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-018
AMOUNT REC'D: 9X40,20M,125,250,4X500,LP
STORAGE LOC: S5C
LOT COMMENTS:
MATRIX: WATER
SAMPLE ID: B0XJP8
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:
RUN A DUP. ON PH,SULFATE,TDS,TSS,CHLORINE
Beginning Depth: .00 Ending Depth: .00

QUOTE/SAR #: 33548
LAB ID: F-0B110114-001
WORK ORDER: D8FGL
RECEIVING DATE: 2/10/00
SAMPLING DATE: 2/09/00
ANALYTICAL DUE DATE: 3/10/00N
REPORT DUE DATE: 3/27/00
PRIORITY: 29
SAMPLING TIME: 8:38
RECEIVING TIME: 9:00

SDG# : W03019

***** ANALYSIS *****

	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Volatile Organics, GC/MS (8260A) PURGE AND TRAP - 5 mL purge STL: SW-846 8260A (I-15-MZ-01) D8FGL-1-01 Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	2/23/00
Acrylamide, Acrylonitrile, Acrolein (831 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION STL: Acrylamide by HPLC (I-88-A9-01) D8FGL-1-04 Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	2/23/00
Arsenic (7060, Furnace) METALS, TOTAL - Waters M7060_L AS (I-05-DT-01) D8FGL Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	8/07/00
Inductively Coupled Plasma (6010B) METALS, TOTAL - Waters M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,VX,ZN (I-05-QO-01) D8FGL Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	8/07/00
pH - Aqueous (150.1) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-AJ-01) D8FGL-1-24 Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	2/11/00
Solids, Filterable "TDS" (160.1) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-AK-01) D8FGL-1-27 Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	2/16/00
Chlorine, Residual (330.3) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-RD-01) D8FGL-1-2A Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	2/10/00
Sulfate (375.4) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-UV-01) D8FGL-1-2E Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	3/08/00

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PSL20300
Page 2

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 2/11/00
Time: 7:27:30
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: PERMIT MONITOR
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-018
AMOUNT REC'D: 9X40,20M,125,250,4X500,LP
STORAGE LOC: S5C
LOT COMMENTS:
MATRIX: WATER
SAMPLE ID: BOXJP8
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:
RUN A DUP. ON PH,SULFATE,TDS,TSS,CHLORINE
Beginning Depth: .00 Ending Depth: .00

QUOTE/SAR #: 33548
LAB ID: F-0B110114-001
WORK ORDER: D8FGL
RECEIVING DATE: 2/10/00
SAMPLING DATE: 2/09/00
ANALYTICAL DUE DATE: 3/10/00N
REPORT DUE DATE: 3/27/00
PRIORITY: 29
SAMPLING TIME: 8:38
RECEIVING TIME: 9:00
SDG# : W03019

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Solids, Total Suspended "TSS" (160.2)	06	2/11/00	0/00/00	2/16/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-AL-01) D8FGL-1-2H Protocol: A , QC Program: STANDARD TEST SET				
Volatile Organics, GC/MS (8240)	06	2/11/00	0/00/00	2/23/00
PURGE AND TRAP - 5 mL purge				
STL: HANFORD 8240APPX VOA GC/MS LIST				
(I-15-FB-51) D8FGL-1-2L Protocol: A QC Program: CLIENT: HANFORD				

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PSL20300
Page 1

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 2/11/00
Time: 7:27:30
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: PERMIT MONITOR
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-018
AMOUNT REC'D: 9X40,20M,125,250,4X500,LP
STORAGE LOC: S5C
LOT COMMENTS:
MATRIX: WATER
SAMPLE ID: BOXJP8
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:
RUN A DUP. ON PH,SULFATE,TDS,TSS,CHLORINE
Beginning Depth: .00 Ending Depth: .00

QUOTE/SAR #: 33548
LAB ID: F-0B110114-001-D
WORK ORDER: D8FGL MSD
RECEIVING DATE: 2/10/00
SAMPLING DATE: 2/09/00
ANALYTICAL DUE DATE: 3/10/00N
REPORT DUE DATE: 3/27/00
PRIORITY: 29
SAMPLING TIME: 8:38
RECEIVING TIME: 9:00
SDG# : W03019

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Volatile Organics, GC/MS (8260A) PURGE AND TRAP - 5 mL purge STL: SW-846 8260A (I-15-MZ-01) D8FGL-1-03 Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	2/23/00
Acrylamide, Acrylonitrile, Acrolein (831 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION STL: Acrylamide by HPLC (I-88-A9-01) D8FGL-1-06 Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	2/23/00
Arsenic (7060, Furnace) METALS, TOTAL - Waters M7060_L AS (I-05-DT-01) D8FGL Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	8/07/00
Inductively Coupled Plasma (6010B) METALS, TOTAL - Waters M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,VX,ZN (I-05-QO-01) D8FGL Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	8/07/00
Volatile Organics, GC/MS (8240) PURGE AND TRAP - 5 mL purge STL: HANFORD 8240APPIX VOA GC/MS LIST (I-15-FB-5I) D8FGL-1-2N Protocol: A QC Program: CLIENT: HANFORD	06	2/11/00	0/00/00	2/23/00

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PSL20300
Page 1

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 2/11/00
Time: 7:27:30
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: PERMIT MONITOR
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-018
AMOUNT REC'D: 9X40,20M,125,250,4X500,LP
STORAGE LOC: S5C
LOT COMMENTS:
MATRIX: WATER
SAMPLE ID: BOXJP8
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:
RUN A DUP. ON PH,SULFATE,TDS,TSS,CHLORINE
Beginning Depth: .00 Ending Depth: .00

QUOTE/SAR #: 33548
LAB ID: F-0B110114-001-S
WORK ORDER: D8FGL MS
RECEIVING DATE: 2/10/00
SAMPLING DATE: 2/09/00
ANALYTICAL DUE DATE: 3/10/00N
REPORT DUE DATE: 3/27/00
PRIORITY: 29
SAMPLING TIME: 8:38
RECEIVING TIME: 9:00
SDG# : W03019

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Volatile Organics, GC/MS (8260A) PURGE AND TRAP - 5 mL purge STL: SW-846 8260A (I-15-MZ-01) D8FGL-1-02 Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	2/23/00
Acrylamide, Acrylonitrile, Acrolein (831 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION STL: Acrylamide by HPLC (I-88-A9-01) D8FGL-1-05 Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	2/23/00
Arsenic (7060, Furnace) METALS, TOTAL - Waters M7060_L AS (I-05-DT-01) D8FGL Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	8/07/00
Inductively Coupled Plasma (6010B) METALS, TOTAL - Waters M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,VX,ZN (I-05-QO-01) D8FGL Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	8/07/00
Sulfate 375.4) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-UV-01) D8FGL-1-2F Protocol: A QC Program: STANDARD TEST SET	06	2/11/00	0/00/00	3/08/00
Volatile Organics, GC/MS (8240) PURGE AND TRAP - 5 mL purge STL: HANFORD 8240APPIX VOA GC/MS LIST (I-15-FB-5I) D8FGL-1-2M Protocol: A QC Program: CLIENT: HANFORD	06	2/11/00	0/00/00	2/23/00

Cur 020802 temp2

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B99-018-32 Page 1 of 2				
Collector Fahlberg		Company Contact D Blankenship		Telephone No. 373-3456		Project Coordinator TRENT, SJ		Price Code 7N	Data Turnaround 45 Days			
Project Designation 183N Backwash Discharge Pond - Permit Monitoring		Sampling Location 100N		SAF No. B99-018		Air Quality						
Ice Chest No. SM1341		Field Logbook No. EL 1424		COA 77BK27YA40		Method of Shipment Fed Ex						
Shipped To Quanterra Incorporated		Offsite Property No. A660112				Bill of Lading/Air Bill No. 42357953 3862						
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation	None	None	Cool 4C	Cool 4C	Cool 4C	HNO3 to pH <2	HNO3 to pH <2	None	Cool 4C	HCl to pH <2 Cool 4C
		Type of Container	P	P	P	P	P	P	P	P	aGs*	aGs*
		No. of Container(s)	1	1	1	1	1	1	1	1	3	3
		Volume	20mL	125mL	250mL	500mL	500mL	500mL	500mL	1000mL	40mL	40mL
Special Handling and/or Storage		Activity Scan	pH - 150 I	Sulfate - 375.4	TDS - 160 I	TSS - 140 I	Arsenic - 7060 - (GFAA)	ICP Metals - 6010A (TAL)	Chlorine (Total residual) - 330.3	Acrylamide - 8316	VOCs - 8240A (Append IX)	
		<p style="text-align: center;">SAMPLE ANALYSIS</p> <p style="text-align: center;">W03019</p> <p style="text-align: center;">100% 100% 100% 100% 100% 100% 100% 100% 100% 100%</p>										
Sample No.	Matrix *	Sample Date	Sample Time									
BOXJP8	Water	2-9-00	0838	<div style="display: flex; justify-content: space-between;"> 02 ✓ 03 ✓ 04 ✓ 05 ✓ 06 ✓ 07 ✓ 08 ✓ 09 ✓ 10 ✓ 11 ✓ </div>								
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS								
Relinquished By		Date/Time		Received By		Date/Time		<p style="font-size: 1.2em;">Sample originated in non R&D Controlled area no TA Req.</p>				<p style="font-size: 0.8em;">Matrix *</p> <p>S=Soil SE=Soil/Sediment SO=Solid S=Sludge W=Water O=Oil A=Air DS=Drydown Solids DL=Drydown Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other</p>
Relinquished By		Date/Time		Received By		Date/Time						
Relinquished By		Date/Time		Received By		Date/Time						
Relinquished By		Date/Time		Received By		Date/Time						
Relinquished By		Date/Time		Received By		Date/Time						
LABORATORY SECTION		Received By		Title		Date/Time						
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By						Date/Time		

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B99-018-32		Page 2 of 2			
Collector Fahlberg		Company Contact D Blankenship		Telephone No. 373-5456		Project Coordinator TRENT, SJ		Price Code 7N Data Turnaround 45 Days			
Project Designation 183N Backwash Discharge Pond - Permit Monitoring		Sampling Location 100N		SAF No. B99-018		Air Quality					
Ice Chest No. SMI 341		Field Logbook No. EL 1424		COA 77BK27YA40		Method of Shipment Fed Ex					
Shipped To Quamstra Incorporated		Offsite Property No. A000112		BNI of Lading/Air Bill No. 42357953 3862							
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage				Preservation	HCl to pH <2 Cool 4C						
				Type of Container	uGs*						
				No. of Container(s)	3						
				Volume	40mL						
SAMPLE ANALYSIS W03019				VOA - 8260A (TCL)							
Sample No.	Matrix *	Sample Date	Sample Time								
BOXJP8	Water	2-9-00	0838								
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS					
Relinquished By R. Fahlberg		Date/Time 2-9-00		Received By R. Thomsen		Date/Time 2-9-00/1030		Sample originated in non RAD Controlled area. WOTA Required			
Relinquished By R. Thomsen		Date/Time 2-9-00/1430		Received By FED EX		Date/Time 2-10-00					
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time		Matrix *			
LABORATORY SECTION		Received By		Title		Date/Time		S-Soil SE-Sediment SO-Solid S-Sludge W-Water O-Oil A-Air DL-Drum Solids LL-Drum Liquids T-Tissue W1-Wipe L-Liquid V-Vegetation X-Other			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time					

BHI-EE-011 (10/99)



020802

Login No.: FOB110114

W03019

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Bechtel Hanford
Project No: 33548
Shipper/No: ADK423579533862

Date: 2-10-00 Time: 0900
Initiated by: [Signature]
RFA/COC Numbers: B99-018-32

Condition/Variance (Check all that apply):

1. <input type="checkbox"/> Sample received broken/leaking.	8. <input type="checkbox"/> Sample ID on container does not match sample ID on paperwork. Explain: _____
2. <input type="checkbox"/> Sample received without proper preservative. <input type="checkbox"/> Cooler temperature not within 4°C ± 2°C Record temperature: _____	
<input type="checkbox"/> pH _____	9. <input type="checkbox"/> All coolers on airbill not received with shipment.
<input type="checkbox"/> other: _____	10. <input type="checkbox"/> Other (explain below): _____
3. <input type="checkbox"/> Sample received in improper container.	
4. <input type="checkbox"/> Sample received without proper paperwork. Explain: _____	
5. <input type="checkbox"/> Paperwork received without sample.	
6. <input type="checkbox"/> No sample ID on sample container.	
7. <input type="checkbox"/> Custody tape disturbed/broken/missing.	

☒ No variances were noted during sample receipt.

Cooler Temperature Upon Receipt: 2°

☒ Temperature Variance Does Not Affect the Following Analyses: _____

Notes: _____

Corrective Action:

- ☐ Client's Name: _____ Informed verbally on: _____ By: _____
- ☐ Client's Name: _____ Informed in writing on: _____ By: _____
- ☐ Sample(s) processed "as is".
- ☐ Comments: _____ If released, notify: _____
- ☐ Sample(s) on hold until: _____

Sample Control Supervisor Review: [Signature]

Date: 2-10-00

Project Management Review: [Signature]

Date: 2-11-00

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 12/12/98

**PAGES 14 – 19 WERE REMOVED FROM THE CASE
NARRATIVE BY BECHTEL HANFORD ON APRIL
4, 2000
THESE PAGES DID NOT PERTAIN TO OUR
PROJECT.**

BECHTEL HANFORD, INC.

Client Sample ID: BOXJP8

GC/MS Volatiles

Lot-Sample #....: FOB110114-001

Work Order #....: D8FGL101

Matrix.....: WATER

Date Sampled...: 02/09/00

Date Received...: 02/10/00

Prep Date.....: 02/16/00

Analysis Date...: 02/16/00

Prep Batch #....: 0048190

Dilution Factor: 1

Method.....: SW846 8260A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	10	ug/L	1.6
Vinyl chloride	ND	10	ug/L	4.1
Bromomethane	ND	10	ug/L	2.0
Chloroethane	ND	10	ug/L	2.3
Acetone	7.4 J	20	ug/L	6.9
1,1-Dichloroethene	ND	5.0	ug/L	2.2
Methylene chloride	ND	5.0	ug/L	1.8
Carbon disulfide	ND	5.0	ug/L	2.1
1,1-Dichloroethane	ND	5.0	ug/L	1.2
2-Butanone	ND	20	ug/L	6.8
1,2-Dichloroethene (total)	ND	5.0	ug/L	2.7
Chloroform	3.1 J	5.0	ug/L	1.5
1,1,1-Trichloroethane	ND	5.0	ug/L	1.3
Carbon tetrachloride	ND	5.0	ug/L	1.3
1,2-Dichloroethane	ND	5.0	ug/L	1.6
Benzene	ND	5.0	ug/L	1.9
Trichloroethene	ND	5.0	ug/L	1.8
1,2-Dichloropropane	ND	5.0	ug/L	1.7
Bromodichloromethane	ND	5.0	ug/L	2.7
4-Methyl-2-pentanone	ND	20	ug/L	3.5
cis-1,3-Dichloropropene	ND	5.0	ug/L	2.0
Toluene	ND	5.0	ug/L	1.6
trans-1,3-Dichloropropene	ND	5.0	ug/L	2.5
1,1,2-Trichloroethane	ND	5.0	ug/L	3.6
2-Hexanone	ND	20	ug/L	4.6
Tetrachloroethene	ND	5.0	ug/L	2.7
Dibromochloromethane	ND	5.0	ug/L	3.2
Chlorobenzene	ND	5.0	ug/L	2.8
Ethylbenzene	ND	5.0	ug/L	2.4
Xylenes (total)	ND	10	ug/L	6.6
Styrene	ND	5.0	ug/L	3.0
Bromoform	ND	5.0	ug/L	3.1
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	3.4
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
4-Bromofluorobenzene	89	(71 - 118)		
Toluene-d8	100	(78 - 124)		
Dibromofluoromethane	104	(77 - 138)		

NOTE(S):

J Estimated result. Result is less than RL.

Severn Trent - St. Louis

BECHTEL HANFORD, INC.

BOXJP8

GC/MS Volatiles

Lot-Sample #: FOB110114-001

Work Order #: D8FGL101

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/L

BECHTEL HANFORD, INC.

Client Sample ID: B0XJP8

GC/MS Volatiles

Lot-Sample #....: F0B110114-001 Work Order #....: D8FGL22L Matrix.....: WATER
 Date Sampled....: 02/09/00 Date Received...: 02/10/00
 Prep Date.....: 02/18/00 Analysis Date...: 02/18/00
 Prep Batch #....: 0050135
 Dilution Factor: 1 Method.....: SW846 8240A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	10	ug/L	2.7
Vinyl chloride	ND	10	ug/L	2.6
Bromomethane	ND	10	ug/L	2.0
Chloroethane	ND	10	ug/L	1.9
Acetone	ND	20	ug/L	1.3
1,1-Dichloroethene	ND	5.0	ug/L	1.4
Methylene chloride	ND	5.0	ug/L	1.5
Carbon disulfide	ND	5.0	ug/L	1.3
1,1-Dichloroethane	ND	5.0	ug/L	1.3
2-Butanone	ND	20	ug/L	2.2
1,2-Dichloroethene (total)	ND	5.0	ug/L	5.0
Chloroform	3.0 J	5.0	ug/L	1.7
1,1,1-Trichloroethane	ND	5.0	ug/L	5.0
Carbon tetrachloride	ND	5.0	ug/L	1.2
1,2-Dichloroethane	ND	5.0	ug/L	1.9
Benzene	ND	5.0	ug/L	1.6
Trichloroethene	ND	5.0	ug/L	1.3
1,2-Dichloropropane	ND	5.0	ug/L	2.2
Bromodichloromethane	ND	5.0	ug/L	1.2
4-Methyl-2-pentanone	ND	20	ug/L	1.6
cis-1,3-Dichloropropene	ND	5.0	ug/L	1.3
Toluene	ND	5.0	ug/L	1.7
trans-1,3-Dichloropropene	ND	5.0	ug/L	1.3
1,1,2-Trichloroethane	ND	5.0	ug/L	1.2
2-Hexanone	ND	20	ug/L	1.7
Tetrachloroethene	ND	5.0	ug/L	2.0
Dibromochloromethane	ND	5.0	ug/L	5.0
Chlorobenzene	ND	5.0	ug/L	2.7
Ethylbenzene	ND	5.0	ug/L	1.1
Xylenes (total)	ND	5.0	ug/L	1.2
Styrene	ND	5.0	ug/L	1.2
Bromoform	ND	5.0	ug/L	0.97
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	0.97
Acetonitrile	ND	100	ug/L	100
Iodomethane	ND	5.0	ug/L	5.0
Allyl chloride	ND	10	ug/L	10
2-Chloro-1,3-butadiene	ND	5.0	ug/L	5.0
Propionitrile	ND	20	ug/L	20

(Continued on next page)

BECHTEL HANFORD, INC.

Client Sample ID: B0XJP8

GC/MS Volatiles

Lot-Sample #....: FOB110114-001 Work Order #....: D8FGL22L Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Methacrylonitrile	ND	5.0	ug/L	5.0
Isobutanol	ND	200	ug/L	200
1,4-Dioxane	ND	500	ug/L	500
Methyl methacrylate	ND	5.0	ug/L	5.0
Dibromomethane	ND	5.0	ug/L	5.0
Ethyl methacrylate	ND	5.0	ug/L	5.0
1,2-Dibromoethane	ND	5.0	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5.0
trans-1,4-Dichloro- 2-butene	ND	5.0	ug/L	5.0
1,2,3-Trichloropropane	ND	5.0	ug/L	5.0
1,2-Dibromo-3-chloro- propane	ND	10	ug/L	10
Dichlorodifluoromethane	ND	10	ug/L	10
Trichlorofluoromethane	ND	10	ug/L	10
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Bromofluorobenzene	88	(69 - 113)		
Toluene-d8	97	(68 - 132)		
1,2-Dichloroethane-d4	93	(72 - 147)		

NOTE(S):

/ Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

BOXJP8

GC/MS Volatiles

Lot-Sample #: FOB110114-001

Work Order #: D8FGL22L

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
UNKNOWN		15	M 23.023	ug/L

NOTE(S) :

M: Result was measured against nearest internal standard assuming a response factor of 1.

BECHTEL HANFORD, INC.

Client Sample ID: B0XJP8

GC/MS Volatiles

Lot-Sample #....: F0B110114-001 Work Order #....: D8FGL12L Matrix.....: WATER
Date Sampled....: 02/09/00 Date Received...: 02/10/00
Prep Date.....: 02/15/00 Analysis Date...: 02/15/00
Prep Batch #....: 0050132
Dilution Factor: 1 Method.....: SW846 8240A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1-Dichloroethene	ND	5.0	ug/L	1.4
Benzene	ND	5.0	ug/L	1.6
Trichloroethene	ND	5.0	ug/L	1.3
Toluene	ND	5.0	ug/L	1.7
Chlorobenzene	ND	5.0	ug/L	2.7
Acrolein	ND	100	ug/L	100

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	92	(69 - 113)
Toluene-d8	100	(68 - 132)
1,2-Dichloroethane-d4	102	(72 - 147)

BECHTEL HANFORD, INC.

BOXJP8

GC/MS Volatiles

Lot-Sample #: F0B110114-001

Work Order #: D8FGL12L

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/L

BECHTEL HANFORD, INC.

Client Sample ID: BOXJP8

HPLC

Lot-Sample #....: FOB110114-001 Work Order #....: D8PGL104 Matrix.....: WATER
Date Sampled...: 02/09/00 Date Received...: 02/10/00
Prep Date.....: 02/18/00 Analysis Date...: 02/22/00
Prep Batch #....: 0048298
Dilution Factor: 1 Method.....: SWDFT 8316

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Acrylamide	ND	100	ug/L	100

BECHEL HANFORD, INC.

Client Sample ID: B0XJP8

TOTAL Metals

Lot-Sample #....: F0B110114-001

Matrix.....: WATER

Date Sampled....: 02/09/00

Date Received...: 02/10/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 0054189						
Arsenic	ND	10.0	ug/L	SW846 7060	02/23-03/17/00	D8FGL121
		Dilution Factor: 1		MDL.....: 1.0		
Prep Batch #....: 0056177						
Aluminum	480	200	ug/L	SW846 6010B	02/25-03/12/00	D8FGL107
		Dilution Factor: 1		MDL.....: 19.7		
Antimony	ND	60.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL10A
		Dilution Factor: 1		MDL.....: 40.9		
Barium	28.0 B	200	ug/L	SW846 6010B	02/25-02/29/00	D8FGL10E
		Dilution Factor: 1		MDL.....: 6.7		
Beryllium	ND	5.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL10H
		Dilution Factor: 1		MDL.....: 0.50		
Cadmium	ND	5.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL10L
		Dilution Factor: 1		MDL.....: 3.3		
Calcium	22000	5000	ug/L	SW846 6010B	02/25-03/12/00	D8FGL10P
		Dilution Factor: 1		MDL.....: 103		
Chromium	ND	10.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL10T
		Dilution Factor: 1		MDL.....: 3.0		
Cobalt	ND	50.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL10W
		Dilution Factor: 1		MDL.....: 2.8		
Copper	ND	25.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL111
		Dilution Factor: 1		MDL.....: 6.4		
Iron	598	100	ug/L	SW846 6010B	02/25-03/12/00	D8FGL114
		Dilution Factor: 1		MDL.....: 8.6		
Magnesium	4230 B	5000	ug/L	SW846 6010B	02/25-03/12/00	D8FGL117
		Dilution Factor: 1		MDL.....: 99.2		
Manganese	5.9 B	15.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL11A
		Dilution Factor: 1		MDL.....: 1.1		
Nickel	ND	40.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL11E
		Dilution Factor: 1		MDL.....: 12.8		

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BECHTEL HANFORD, INC.

Client Sample ID: BOXJP8

TOTAL Metals

Lot-Sample #...: F0B110114-001

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Potassium	ND	5000	ug/L	SW846 6010B	02/25-03/12/00	D8FGL11H
		Dilution Factor: 1		MDL.....: 1700		
Silver	ND	10.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL11L
		Dilution Factor: 1		MDL.....: 5.5		
Sodium	2490 B	5000	ug/L	SW846 6010B	02/25-03/12/00	D8FGL11P
		Dilution Factor: 1		MDL.....: 102		
Vanadium	ND	50.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL11T
		Dilution Factor: 1		MDL.....: 2.0		
Zinc	9.6 B	20.0	ug/L	SW846 6010B	02/25-02/29/00	D8FGL11W
		Dilution Factor: 1		MDL.....: 3.0		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B0XJP8

General Chemistry

Lot-Sample #....: FOB110114-001

Work Order #....: D8FGL

Matrix.....: WATER

Date Sampled....: 02/09/00

Date Received...: 02/10/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.5		No Units	MCAWW 150.1	03/10/00	0070397
			Dilution Factor: 1	MDL.....		
Sulfate	23.2	5.0	mg/L	MCAWW 375.4	03/08/00	0070185
			Dilution Factor: 1	MDL..... 0.90		
Total Dissolved Solids	89.0	5.0	mg/L	MCAWW 160.1	02/14-02/16/00	0046371
			Dilution Factor: 1	MDL..... 4.2		
Total Residual Chlorine	0.10 <	0.10	mg/L	MCAWW 330.3	03/17/00	0077286
			Dilution Factor: 1	MDL..... 0.089		
Total Suspended Solids	5.0	1.0	mg/L	MCAWW 160.2	02/14-02/15/00	0046370
			Dilution Factor: 1	MDL.....		